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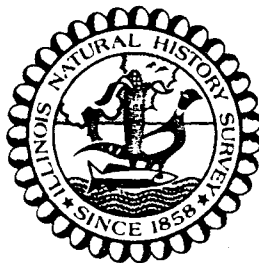
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ILLINOIS NATURAL HISTORY SURVEY



Section of Wildlife Research

Annual Job Progress Report

Submitted to

ILLINOIS DEPARTMENT OF CONSERVATION

DIVISION OF WILDLIFE RESOURCES

Project Number W-97-R-1

Cooperative Wood Duck Research

1 October 1986 - 30 June 1987

by

Frank C. Bellrose

15 September 1987

Performance Report
Annual Job Progress Report

State: Illinois

Project Number: W-97-R-1

Project Type: Research

Project Title: Cooperative Wood Duck Research

Sub-Project No. 1: Illinois Wood Duck Investigations

Need: Wood ducks have become an increasingly important part of the bag of waterfowl hunters in Illinois and in the United States east of the Great Plains. In 1960, wood ducks made up 4.2 percent of the duck kill in Illinois, 4.8 percent in the Mississippi Flyway, and 12.5 percent in the Atlantic Flyway (U.S. Fish and Wildlife Service Administrative Report No. 5). Two decades later, 1980, the kill of wood ducks amounted to 15.8 percent in Illinois, 13.7 percent in the Mississippi Flyway, and 23.7 percent in the Atlantic Flyway. Linear regression of the wood duck kill over the period of 1960-1984, indicates consistent steady increases in Illinois and throughout the eastern United States. Direct band recovery data that have been analyzed to date indicate that the proportion of kill to population has stayed at approximately the same level. Hence, the conclusion that the increased kill of wood ducks mirrors a comparable increase in its population. Because of the increase in wood duck numbers and the decrease in northern prairie duck populations, waterfowl hunters in Illinois and other states are requesting changes in regulations that would permit a greater kill of wood ducks. The prairie breeding grounds of Canada that provide the bulk of the game ducks for North America are experiencing a loss and degradation of habitat by agricultural expansion. Therefore, there is a need to turn greater attention to maximizing the

production of wood ducks. The wood duck makes up over 90 percent of the breeding ducks of Illinois, and is by far the most abundant breeding duck in eastern United States. Only a small proportion of the population breeds in Canada.

This is a performance progress report that covers from 1 October 1986 through 30 June 1987 of job segment W-97-R, Sub-project No. 1. Funding for the initial year of this program was not available until 1 October 1986.

Deliverables for this Progress Report for "FY 87, due 15 September 1987, will include as a minimum draft copies of chapters 1 (Distribution) and 5 (Nest Biology)" This report includes draft copies of chapters 6 (The Breeding Ground Requirements), 7 (Behavior of Wood Ducks on the Breeding Grounds), 8 (Nesting Biology), and 11 (Management: Nest Houses), but does not include Chapter 1 (Distribution). In order to take advantage of personnel (Gregory Soulliere) who were temporarily available, chapters 6 and 11 were substituted for Chapter 1.

Job No. 1; Title: Wood Duck Breeding Biology and Population Dynamics

Objectives:

- a. To collate, analyze, and statistically appraise the significance of biological data collected 1938-1986 in Illinois.
- b. To supplement Illinois data with more extensive data collected from questionnaires received from other state conservation agencies and the national wildlife refuges as well as data digested from 900 plus papers and reports on the wood duck.

- c. To evaluate the place of nest houses in wood duck breeding and to establish parameters for the most effective types of houses and placement.
- d. To determine population trends in Illinois and in the several flyways during the last 25 years.
- e. To evaluate the relative role that adult mortality and recruitment have played in the yearly changes in population levels.
- f. To make deductions from population data on the effect of regulation changes on the kill of wood ducks.

(a) Activity:

During the first phase of this project (1 October 1986 - 30 June 1987) some additional data were collected; however, a major portion of the effort was spent analyzing data and preparing draft copies of chapters 6, 7, 8, and 11 for a book, "The Wood Duck: Its Population Dynamics, Nest Biology, and Management." Draft copies of the above referenced chapters comprise the main portion of this report.

PREPARED BY:

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APPROVED BY:

A handwritten signature in cursive script, reading "Glen C. Sanderson", is written over a horizontal line.

Glen C. Sanderson, Head
Section of Wildlife Research
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DATE: 15 September 1987